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ABSTRACT

Youth sport programs must offer children the opportunity to participate successfully and without injury, and the optimum development of each child should be the ultimate aim of all sport programs. A classification system can achieve these goals by accurate testing and placement of participants. Classification is needed because children do not grow and mature on identical schedules, and age and grade level alone provide insufficient information about a student's readiness for competitive sports. The composite factors on which to base any classification system include: a thorough medical examination, age, height, weight, interests of child and parents, biological maturation, physical fitness, motor skill development, and psychological profile. If the program is very large, groups may be developed within a narrow homogeneous range. The system should also allow for coeducational participation, provided the classification allows all participants a relatively equal chance for success. (JD)

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WHAT'S FAIR IN YOUTH SPORTS

-EQUATING CHILDREN FOR COMPETITION-

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WHAT'S FAIR IN YOUTH SPORTS

-EQUATING CHILDREN FOR COMPETITION-

Approximately 20 million people in the United States are directly involved in Youth Sports, and at least another 30 million of the population is indirectly involved. Youth sports, like professional sports are "big-business." The direction, purposes, revenue sources, administrators, and participants are at times similar and yet at other times very different in the youth and professional programs. Differences in contracts, cost, training habits, size of players, equipment and facilities, and similarities in rules and regulations, strategies, training techniques, and attitudes are some of the more obvious examples. In determining What is Fair in Youth Sports, it is necessary to conduct a critical analysis of both the differences and similarities within the various segments of today's programs, because it is very difficult to radically change any solid institution, and sport is an exceptionally strong social institution (Coleman, 1961; Loy, 1968).

From the above, I am inferring that not all is well in the "big world of sport." Likewise, I am implying that many facets of sport are either totally or partially satisfactory to society.

What is fair in youth sport programs is a difficult question, for if you answer the question from an administrative viewpoint, then it is possible to look at sport organizationally, which may be entirely different from the viewpoint of a child, who may have "fun" as a primary focal point. Personally, I believe the answer

must relate to optimum development of the child. Optimum development should encourage a balancing effect from all concerned individuals (youth, parents, coaches, administrators, ect.), for any single group cannot view sport from its own biased perspective. Rather they must come back to the optimum development concept, which must include implied as well as specified values. For example: (1) a governing body cannot arbitrarily decide to send a youth team to a foreign country if it means deferring the purchase of necessary safety equipment for all other participants in a program; or (2) a child who wishes, or is required, to practice at 6:00 p.m. every day, which happens to be the dinner hour for that particular family, must reach a balance between practice time, nutrition, and family harmony, in order to reach the optimum development concept; or (3) a mother who encourages her daughter to attend AAU track practice and meets in the local community, and then vehemently objects to regional and state competition may cause severe conflict within her daughter as well as within the team.

One of the first conceptual factors to rationalize when attempting to bring forth optimum development is the win/loss/success triad. Winning or losing is certainly not the most important factor in sport, whereas success, which is often directly connected to the win/loss situation is very important in the developmental process. A clear understanding of what success means within the optimum development concept must be logically and rationally developed. The meaning will depend on the child, the family, the sports organization, and the resources available at any particular

time. Other factors such as classification procedures, practice time and techniques, rules, officials, and coaches are also important.

In order to provide opportunities for optimum development, it is essential to accept several of man's basic rights in today's social world (Daume, 1976, Vice President, 1976 International Olympic Committee):

- the inviolable freedom to develop one's personality;
- equality among all human beings (including the equality of man and woman and the assurance that no person be either favored or discriminated against because of birth, origin or social standing);
- the right to live, to achieve and maintain physical health.

Daume goes on to cite the principle of efficiency and its relationship to competition, automation/mechanization, leisure time, and stress. The basic problem, according to Daume, is - ". . . in an industrial society man lives as a whole within individual and social confines which make it difficult for him to develop freely, to pursue his interests and to commit himself emotionally within a community." Sport, however, presents numerous opportunities for assisting man with his existential problems, such as the pressures relating to the future and in making decisions in a variety of situations.

Because they attached such great importance to sport, the West German sports organizations in 1972 initiated a major movement, the theme of which was "Sports for Everybody." Communist countries,

especially the U.S.S.R., have envisioned a similar goal since the early 1950's. However, is "sport for everybody" a realistic goal? It seems to fit into the theme of this presentation - What's Fair in Youth Sports" - but it certainly is not a goal beyond criticism. If sport is to make maximum contribution to optimum development, then it means sport participation is a fundamental human right; organized in a way that will enable everybody, regardless of age, sex, position, ability or interest, to take part. Once again, Daume (1976) indicates that if we have sport for everybody, then it involves:

- encouraging young people to participate in sport out of school
- offering an interesting program to all those who seek health and enjoyment in sport
- providing sport for the handicapped and neglected
- promoting the talented and those freely striving for top performance and championships.

The demand of "sport for everybody" requires social reform, especially in this country where democracy is practiced, and social control is usually not a principle espoused by our political platforms.

It appears obvious that we may never reach the ultimate goal of "sport for everybody," however, this does not mean we should drop the goal, rather it means we need to work more diligently and cooperatively to make as much progress as possible!

The twentieth century has been designated "the century of the child." Thus, we should be placing extra concern on our efforts to provide the optimum development of every child, and if sport is truly for everybody, then we must include opportunities for all children to successfully participate. Immediately, I see current conditions causing problems in creating a positive sport environment. Problems such as: curfews at dusk in Atlanta, withdrawal of Federal funds for recreation programs at schools or in the general community, inflation making inroads into purchasing power and financial balance, to name a few.

As leaders in youth sport programs there are several ways we can assist in the development of "What is Fair in Youth Sports." One of the most crucial and yet difficult concepts to manipulate centers around classifying young people to equalize competition. I believe that there are several key topics in equalizing competition, with avenues for improvement available to each of us. If we (as individuals who try to promote sport) really try to provide for optimum development of every child, then there is no real problem in equalizing competition. However, since optimum development may be too idealistic for "clouds one-to-eight," I will try to portray actual positive examples which may be helpful in most organizations. In order to set up a classification system one must determine those factors which are most important in a given activity. Factors such as: skill level, body size, gender of players and the associated body development factors, and physical fitness level are often most important. A few basic factors may

be the keys to differences between a very good program and an average program. The classification system should equate teams so that potential success is possible for as many individuals and teams as possible. Theoretically, a 50/50 win-loss situation should be attempted. One should understand that the farther you move away from a 50/50 competitive situation, the greater the possibility of achievement motivation problems. Thus, equalizing of competition begins with homogeneous groupings.

In previous discussions of equalization, two factors have predominated: injury prevention, and encouragement of success. It seems to me that the latter, success, should encompass the former. I believe, first of all, we need to ask the young people what they desire for equal competition. I have yet to encounter an age-group league, with formal competition, where the youth have had input into the organization of the experiences. Personally, I believe children will tell us a lot of their concerns, interests, and goals if we just take time to ask a few questions. The questions that I would ask would be centered around the young people's short and mid-range goals. For example: How much time, effort, and discipline do you want to put into this team or activity? Do you expect to continue playing this sport next year? Three years from now? Would you rather play with friends or should the teams or partners be composed irrespective of friendships? Do you want to have a post-season tournament, with the winning team continuing to play in regional, state, or national tournaments? Do you want to play just for fun with no records maintained? And so on. A survey

of young people will return the initial focus of sport to the child, which is a very important factor, somewhat similar to Scott's early 1970's concept of athletics for athletes (1971). Perhaps the concern of young people being involved in decision making in sport is moving to the "front burner," for the Canadian National Task Force on Childrens Play has stated that they are making a significant effort to return the elements of enjoyment and satisfaction to the child participant and the child is being asked what is enjoyable (1979).

A second key factor involves classification based on biological age. The factor of chronological age versus maturational age has been a topic of concern for several years and is still very important (Espenschade, 1980; Rarick, 1973; Tanner, 1962). Chronological age classification is the traditional classification criterion. Outside of classifying by gender, chronological age may be the oldest criterion, and come to think of it, since girls have only participated in large numbers in athletics in the last decade, the chronological age criterion may be the oldest. However, many authorities believe that classifying only by age and/or sex is a very poor practice.

Medical references, research reports, and casual observations show that children neither grow or mature on identical time schedules. Previous research (Rarick, 1973) has shown that it is not uncommon to find a 5 year maturational variation within a group of chronological twelve year olds. Therefore, in a competitive situation, a biological 15 year old may be competing against another individual

who is a biological 10 year old. The high positive relationships between skeletal age, height, weight, and motor development indicates that most mature children within a select age group have an advantage in sports competition, when compared against less mature competitors. In sports where strength, speed, and weight are very important, it should be easy to understand the necessity of a good classification system.

In 1975, J. Kenneth Hafner, Director of Services for the New York State Public High School Athletic Association (NYSPHSAA), reported (Gerber, 1975) on a new venture called SCAM - Selected Classification Age Maturity program which was a major breakthrough in classification systems. This new system is felt to be a major factor in reducing the sport injury rate in the New York State Public Schools Sports Programs by almost 1100%. The stimulus to develop the SCAM Program was statistics from the early 1970's, such as: 17 million Americans are hurt badly enough while playing sports each year to need a doctor's care; one in every three children under the age of 15 participating in sports requires a doctors care each year; and 12 million children suffer some permanent physical impairment on the playing fields before they turn 18. Medical reports regarding injury occurrences and rates have traditionally been the focal stimuli for age-group classifications. In addition to classification systems, if one analyzes particular rule changes in sport, the majority of all rules are injury related.

The NYSPHSAA which developed SCAM (presently shortened to SCP - Selection Classification Program) conducted a seven year experimental program because many educators and coaches were concerned with select facts which are basic to the procedures of measuring and appraising readiness and subsequent placement. These were (Scott, 1981):

1. Pupils do not grow and mature on identical schedules. Age and grade level alone provide insufficient information about a student's readiness for involvement in interscholastic athletic contests.
2. Among pupils of the same age, grade and same or different sex, there is a tremendous range in developmental status (stage of maturation, physical fitness, skills and prior sports experience).
3. There is a wide range in the demands a sport makes of participants. These demands are determined by the degree of contact and strenuousness.
4. The stage of maturation is directly related to muscle development, strength, closure of the epiphyses and, indirectly, to the potential for developing of other readiness factors such as endurance and coordination.
5. The relative importance of all factors (height, weight, stage of maturation, physical fitness, skills) must be evaluated to insure the pupil's sports success and prevention of injury.

6. Evaluation must include careful consideration of the pupil's range of scores as compared to the members of the team at that specific level of play.
7. The screening procedure only applies to a pupil's eligibility to have access to try out for a specific team. An approval decision permits a pupil to try out for a team under the same standards that are used for all other pupils trying out for the team.

The purpose of conducting the SCP evaluation was to improve the opportunities for successful participation of all school individuals - boys, girls, non-handicapped, and handicapped.

The basic components of the original evaluation included: a thorough health examination by a physician, measurement of height and weight, determination of physical maturation, and evaluation of flexibility, physical fitness (agility, strength, speed, endurance), skill and prior sports participation.

Classification according to biological maturation is not a recent concept, for in 1968 the American Academy of Pediatrics, the Committee of Medical Aspects of Sport within the AMA, the Executive Committee of AAHPER, and the State Directors for Health, Physical Education, and Recreation stated that sport administrators consider careful grouping of athletes according to sex, weight, size, skill, and physcial maturation when indicated. Classification is also not a simple process, however, it can be accomplished with reasonable effort and assistance from concerned medical personnel, educators and community groups. Some of the commonly published techniques for assessing biological

maturity include: x-rays of bone growth centers, dental development, secondary sex characteristics, size (including height and weight), speed, endurance and strength components, and chronological age (Espenschade, 1980; Malina, 1975; Rarick, 1973; Tanner, 1962). The use of the x-ray technique is usually very difficult to achieve and involves legitimate radiation concerns, however, it is the most valid measure of skeletal maturity, with its highest advantage over chronological age occurring after 9 years of age. Dental development, on the other hand, has a low positive relationship (Sinclair, 1969) to skeletal maturity and is also difficult to obtain. Therefore, it is not at present a viable criterion measure although many dentists feel it deserves increased attention. Their contention lies within the fact that dental age may be determined without x-rays, however, this process has a low validity rate due to substantial variation in eruption patterns.

According to Tanner (1962), almost every muscular and skeletal dimension of the body seems to peak during the adolescent growth spurt. For the SCAM project, Dr. Thomas E. Shaffer (Gerber, 1975), Professor of Pediatrics at Ohio State University, developed a series of drawings based on previous work reported by Tanner (1962), to assist school doctors in grading boys facial, axillary, armpit, and pubic hair growth on a scale ranging from one (no hair growth) to five (typical adult hair growth). The above evaluation takes approximately one minute to complete. For girls, Shaffer developed a scale based on age of menarche, or the first menstruation. Shaffer states that girls are assumed to have a developmental age of 12.5

at the time of their first menstruation (this is approximately the average age for reaching menarche in the U.S., Malina, 1973). The correlation of menarche to skeletal age is very high (Tanner, 1962), the range including r = .46 at age 8, to r = .86 at age 14. The pubertal development signs may appear as early as 8.5 years for girls (9.5 years for boys) or as late as 13 years (13.5 years for boys). According to Shaffer, once menarche is reached, girls are at approximately the same age of physical development; two girls of similar menarchal age are much more alike physically than girls who share the same birthday.

The Shaffer tests are based on the premise that sexual and sports-fitness maturation proceed together. Although each child matures sexually at his or her own rate, the sequence of events is orderly enough to assure high validity and reliability. Low scores on the Shaffer tests are indications to the doctor of the fact he may be looking at a youngster low in motor ability who may not be ready for a sport involving heavy body contact or endurance.

The NYSPHSAA also believes that a youth who appears gifted in a sport may not necessarily be less vulnerable to injury than a less gifted youth. In fact, the reverse may be true, for the physically immature child who is very active may be placing abnormal stress on the body and more specifically the growth centers of bone tissue. To control for this potential problem, SCAM originally had a second exam which was developed by Dr. James A. Nicholas, Director of the Institute of Sports Medicine and Athletic Trauma at Lenox Hill Hospital in New York City, who devised a scale

to determine whether an individual is loose- or tight-jointed. The test consisted of five parts: (1) stand with feet turned out at a 180-degree angle; (2) get into the lotus position; (3) touch the palms of your hands to the floor without bending your knees; (4) perform a 15-degree reverse bend in the knee while extending your arms straight ahead; and (5) turn your palms outward so that the little fingers are above the thumbs.

In addition, SCAM includes a basic physical fitness test, or readiness-for-sport evaluation. A four part test consisting of: agility (side step back/forth across two lines eight feet apart in ten seconds); strength (number of sit-ups in two minutes); speed (90 or 120 yard dashes); and endurance (number of four-position squat-thrusts in one minute) is included. The human factors results are then matched to specific sport requirements. It may also be possible to utilize the Health Related AAHPERD physical fitness procedures, however, I believe a better alternative would be a sport specific physical fitness test.

Examples of Sport Requirements

	Agility	Strength	Speed	Endurance	Total
Football:	3	3	3	2	11
Ice Hockey:	3	2	3	3	11
Gymnastics:	2	3	1	2	8
Baseball:	2	2	2	1	7

The final part of SCAM attempts to match physical competancy with the sport a youth wants to play. Sports are categorized in two ways: first, by strenuousness of the activity (strenuous,

moderately strenuous, non-strenuous), and second by degree of body contact involved (non-contact, limited contact, and contact). Sport classifications are then combined as: strenuous contact (i.e., ice hockey); strenuous limited contact (i.e., soccer); strenuous non-contact (i.e., gymnastics); moderately strenuous, non-contact (i.e., baseball); and non-strenuous, non-contact (i.e., bowling).

Every sport classification system should also include a brief skill and experience test if a major goal is to promote a successful experience. Usually skill increases with organized practice, and some knowledge of results. A group of 12-14 year old participants may have individuals who have over eight years of experience (if they are of a chronological age of 14 years and began in the sport at age six), and also it is possible that certain youths have almost no experience and perhaps a very low level of skill. A test battery should be locally developed dependent on the skills required for each sport and the strategies and objectives of the local program. For example, in baseball, throwing, hitting, and catching may be sufficient for gross classification for young athletes, while evaluation of sliding and pitching skills may be necessary for older age youth. SCP uses a four level skill criteria: superior, above average, average, and below average.

From the above test results (physical fitness, medical examinations, sexual-physical maturation, and skill level), the athletes are screened and matched to competition. Following each session of competition, a short subjective degree of success evaluation is conducted for all participants at the same level of competition.

Some of the results of the New York research include: (1) qualified seventh- and eighth-grade students competed safely and successfully on the varsity level in many sports. (2) The injury rate of the students who participated in the study was significantly lower than the state average for all students who compete in interscholastic sports. Injuries were evaluated according to frequency, type, area of body concerned, and degree of seriousness. The degree of seriousness was categorized as: 1-7 days, 8-14 days, 15-30 days, and greater than 31 days of not being able to participate after the injury occurred. Data from the 1979-1980 academic year for all sports and all classifications, indicates a very low injury rate:

	16-31 Days	31+ Days
Males	.12%	.36%
Females	.19%	.13%

(3) The dropout rate among students in the survey, with the exception of girls' track and field, was significantly less than average. The return rate of the students who tried out and competed successfully was 99 percent the following year. (4) Athletes in the study were programmed successfully downward as well as upward.

Dr. Sandra Scott (1981), current Associate Director of SCP, reports that as a result of the analysis of over 14,000 athletes from 1973-1979, two significant changes are recommended from the original SCAM: (1) the only male maturation evaluation necessary is pubic hair growth, and (2) the flexibility test is no longer used. In addition, Scott cautions users of the system to be alert for

special discrimination of maturation rates which may vary markedly from normative data, such as select Indian populations, handicapped individuals, and orphans. In addition, Dr. Scott emphasizes the need to evaluate skill on a local school and non-school basis, to be cognizant of travel problems when athletes are moved up or down on the classification scale, and to critically analyze norms that are established for starters versus substitutes. The travel concern is especially relevant when the athlete is moved in the classification scale which requires practice and games at a different location. At present, approximately 3 percent of the athletes in the New York system are moved up or down.

Martens (1978) commented on the original SCAM and discussed several common problems: (1) the use of hair and menarche as classification criteria is most useful, and at times only useful, for pubescent and post-pubescent children; (2) late maturing children will always be counseled away from contact and collision sports, but once they catch up it may be difficult to shift into these sports; and (3) the system dis-regards mental and emotional maturity as criteria for classification.

I believe Martens concerns are very legitimate. First of all, the highest correlation between maturational factors and motor performance occurs between ages 9 and 13. Therefore, we need to develop the classification system for those youth sport groups below age 9. I believe the best procedure we have at this date for prepubertal participants is a combination of age, height, weight,

skill, and experience. The variables of skill and experience are subjective, but are certainly superior to a simple sex/age criteria. Coupling the above criteria with a comprehensive medical examination, we would be taking a giant step in our youth sport classification system procedures. Second, although not tested directly or indirectly, observations of the SCP program seem to support the physical classification method for psychological factors also. Shaffer contends that early maturing youths possess greater psychological/social competence and self respect than late maturers and thus cope well when moved ahead. However, we should begin to experimentally use several psychological inventories to assist in the classification procedures. Inventories which evaluate ego strength and tough mindedness (Cattell 16PF, Baron Ego Strength Scale), impulse control, and anxiety (Martens SCAT Inventory) are examples of possible value to sport classification systems. Combinations of ego strength, tough mindedness, impulsiveness, and anxiety are critical sport success variables and thus need to be controlled. Psychological injury may be just as important for classification as physical injury!

The third concern from Martens relates to young performers who are still interested in a particular sport even though the classification system indicates their current participation may subject them to injury or a difficult chance for success. We must provide these youngsters with an enjoyable, less competitive and less strenuous/contact experience whereby they learn the game and the techniques and then may be able to compete when they reach a higher level of maturity.

In summary, every community or school should establish the best system possible within the limits of those individuals conducting the program. The larger sport programs provide greater opportunities to have multiple classification levels - within sex, between sex, handicapped, skill, maturation, etc. Changes may need to be included in the system each year, therefore, one should not look at any classification system with total permanency.

The composite factors to base any classification system on, include: a thorough medical exam, age, height, weight, interests of youth, parents, and the organization, biological maturation, human physical fitness factors, motor skill development, and psychological stress. If the program is very large, groups may be developed within a narrow homogeneous range. It should be accepted that it is not very good for optimum development if groups span more than three chronological years. Furthermore, the program should also allow an athlete to be placed "up" or "down" the classification scale for competitive, social, or psychological purposes. For example, a highly skilled, experienced, and biologically mature seventh grade gymnast should be allowed to compete on a high school varsity team if the child and parents so desire. Likewise, a biologically immature and poorly skilled twelfth grade individual may desire to compete with peers for social and psychological reasons, and this should be allowed with the mutual understanding that equal skill competition will probably not be possible. The system should also allow for coeducational participation, provided the classification allows all the participants a relatively equal chance for success.

Finally, many problems associated with classification can be addressed by competent, interested coaches. "Good" coaches who understand sport and youth, can do more for optimum development of the individual participant, than any sophisticated organizational system. The system, the coach, the parent, and administrators must all work to achieve the goals of youth sport programs. I believe programs and information centers, such as the YBA sponsored by the NBA and headquartered at the Colorado Springs Olympic Training Center (Ferrell, 1979), the T-Ball program in Manhattan, Kansas (Laurie, 1981), SCP in New York (Scott, 1981), and the Youth Sport Institute in the State of Michigan (1978) are fine examples of effective planning for optimum development.

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